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SDMS DocID

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June 17, 2005

GeoInsight Project 2491-001

Frank Gardner
U.S. Environmental Protection Agency
One Congress Street, Suite 1100-HBR
Boston, Massachusetts 02114-2023

Superfund Records Center

SITE: Wells G + H

BLANK: 2.6

OTHER: _____

RE: Twelfth Progress Report
Administrative Order on Consent for Removal Action
Wells G&H Superfund Site
Olympia Nominee Trust Property
60 Olympia Avenue
Woburn, Massachusetts
CERCLA Docket # 01-2004-0059

Dear Mr. Gardner:

GeoInsight, Inc. (GeoInsight) prepared this progress report to describe activities completed at 60 Olympia Avenue in Woburn, Massachusetts (the Site) during the twelfth progress report period (May 22, 2005 to June 21, 2005). This letter was prepared in accordance with the June 21, 2004 U.S. EPA Administrative Order on Consent for Removal Action (CERCLA Docket No. 01-2004-0059; the "Order"). The letter was prepared by GeoInsight on behalf of Olympia Nominee Trust, current owner of the 60 Olympia Avenue property.

Please find the attached Work Plan Implementation Schedule (the "Schedule"). The status of specific tasks is presented below. This progress report also includes a summary of ground water sampling results and an evaluation of dense non aqueous phase liquid (DNAPL) observed at the Site. An updated Site Plan and summary tables of analytical data are attached. The Site Plan includes the locations of the containment cell, new and existing monitoring wells, and injection wells.

Liquid Permanganate Delivery

On June 10, 2005, thirty-five 55-gallon drums of sodium permanganate were delivered to the Site and placed in two of the 20-foot storage containers. Sodium permanganate will continue to be stored on Site until the DNAPL evaluation is complete.

Ground Water Monitoring Event

On April 13 and 14, 2005, GeoInsight conducted a comprehensive base line ground water monitoring event of existing and new monitoring wells in the vicinity of the containment cell. Ground water samples were collected using low flow sampling techniques. During low flow sampling, the following parameters were monitored until stabilization: dissolved oxygen, oxygen reduction potential, conductivity, temperature, and pH. Ground water samples were submitted to Groundwater Analytical, Inc. for laboratory analysis of volatile organic compounds (VOCs), dissolved arsenic, dissolved sodium, dissolved manganese, dissolved iron, and chloride. Laboratory analytical results are summarized in Tables 1A and 1B.

In general, laboratory analytical results for ground water samples collected from existing monitoring wells are consistent with historical observations. Trichloroethylene (TCE) was the VOC detected with the greatest frequency and at the highest concentrations in the ground water samples. For monitoring well couplets located inside of the containment cell, the concentration of TCE detected in the ground water samples were generally higher in the deeper monitoring wells (screened 14 to 17 below grade surface (BGS)) than in the samples obtained from shallow monitoring wells (screened 6 to 9 feet BGS). VOCs were not detected in the ground water samples obtained from two monitoring wells that are located within the containment and are screened in the underlying sand unit (wells OL-2M and OL-3M).

DNAPL Recovery

During the ground water sampling event on April 14, 2005, GeoInsight encountered droplets of DNAPL while purging ground water from monitoring well MW-200D. The monitoring well couplets can not be "gauged" directly for the presence and thickness of DNAPL because the wells were constructed using 1-inch diameter pre-packed 3-foot long well screens that are not accessible to an interface probe.

On May 5, 2005, GeoInsight gauged the 4-inch diameter injection wells with an interface probe for depth to water and the presence of DNAPL. DNAPL was detected in four injection wells (E3, G2, G3, and H2) at varying thicknesses. The exact thickness of the DNAPL was difficult to measure because of the presence of loose silt in the bottom of the injection wells.

On May 6, 2005, GeoInsight confirmed the presence of DNAPL in injection wells E3, G2, G3, and H2 by visual inspection using a 2-inch diameter clear bailer. DNAPL thicknesses in the injection wells ranged from several inches to 1.5 feet (G3).

On May 20, 2005, GeoInsight gauged the injection wells for the presence of DNAPL. DNAPL was detected in injection wells B2, B3, E3, F3, G2, G3, G4, and H2. These wells are highlighted on the Site Plan. A total volume of approximately 2.85 gallons of DNAPL was removed from injection wells B2, B3, E3, F3, G2, G3, G4, and H2 manually using a 2-inch diameter clear bailer. A sample of the DNAPL was collected and submitted to Groundwater Analytical Inc. for analyses of volatile organic compounds using USEPA Method 8260B. The results of the analysis indicated the DNAPL consisted primarily of TCE and xylenes.

Consistent with discussions with you, GeoInsight implemented a DNAPL recovery program within the containment cell. On an approximately weekly basis, the wells were gauged for the relative presence of DNAPL and recoverable solvent was removed manually using clear bailers. Typically, the quantity of DNAPL in the wells decreased significantly (i.e., less than an inch thick) after several bailers of solvent were removed from the wells. DNAPL recovery in the wells was observed to be slow. In most wells, significant DNAPL was not observed in the wells after 2 to 3 purging events. Well G4 was observed to contain the most DNAPL.

The following table summarizes subsequent monitoring and DNAPL recovery events.

Date	DNAPL Wells Bailed	Approximate Volume Recovered
May 23, 2005	B3, E3, G2, G3, G4, and H2	0.95 gallons
May 31, 2005	A4, B3, E3, G2, G3, G4, and H2	0.82 gallons
June 2, 2005	G2, G3, and G4	0.54 gallons
June 10, 2005,	G3, and G4	0.68 gallons
June 13, 2005	G4	0.27 gallons
June 14 and 15, 2005	G4	0.14 gallons

A total volume of approximately 6.25 gallons of DNAPL has been removed from injection wells at the Site. The DNAPL was transferred to a 30-gallon steel drum that was placed inside a 55-gallon steel drum (satellite accumulation drum). The satellite accumulation drum is located inside the containment cell north of injection well G3.

Additional Activities

In general, DNAPL thickness has been greatest in injection wells G3 and G4. After eight bailing events, the thickness of DNAPL in well G3 diminished from greater than a foot to half an inch or less. The thickness of DNAPL in well G4 continues to rebound but has diminished over the last three bailing events from greater than a foot to less than four inches. GeoInsight will continue to monitor the presence of DNAPL in these injection wells and recover DNAPL if possible. It is preferable to remove recoverable DNAPL prior to the initiation of permanganate in the areas where DNAPL has been observed.

On June 14 and 15, 2005, hydrophobic absorbent socks (designed to recover solvents) were placed in injection wells A4, B2, B3, E3, F3, G2, G3, and H2. Injection well G4 will continue to be bailed until the DNAPL ceases to rebound, and then an absorbent sock will be added this well. Frequent Site visits (i.e., one to two visits per week) are scheduled to monitor the presence of DNAPL and the capacity of the absorbent socks.

Please contact us at 978-692-1114 if you have questions or if you would like to discuss this project.

Sincerely,
GEOINSIGHT, INC.

~~for~~
Jared M. Sheehan
Staff Environmental Scientist

~~JM~~
Michael J. Webster, P.G., L.S.P.
Senior Associate



Christene A. Binger
Project Manager

cc: Chub Whitten, Olympia Nominee Trust
David P. Rosenblatt, Esq., Burns & Levinson LLP

**WORK PLAN IMPLEMENTATION SCHEDULE
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS**

TASK DESCRIPTION	SCHEDULE
Permits Submit permit application to Massachusetts Water Resources Authority (MWRA) to drive sheet pile and continue construction activities.	Completed October 2004
Site Preparation Bridge Enhancements for Sheet Pile Crane Brush Clearing	Completed November 2004
Sheet Pile Installation	Completed January 2005
Injection Well and Trench Installation Trenching Horizontal Wells (5 days) Drilling Vertical Wells (10 days)	Completed January 2005
Monitoring Well Installation	Completed February 2005
Baseline Monitoring Event	Completed April 2005
Installation of Liquid Permanganate Delivery System Staging Area for Permanganate Storage	Completed May 2005
Up to 20 Injection Events - Dependent on Site Monitoring Includes Site Preparation, Delivery of Reagent (anticipate 1,000 gallons of NaMnO ₄ per event)	TBD
Post Remediation Monitoring (quarterly for three years)	TBD

TBD = To Be Determined

TABLE 1A
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOC's
60 OLYMPIA AVENUE
WOBBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	CONSTITUENT (VOCs)									
			PCE	TCE	1,1,1-TCA	1,1-DCE	cis,1,2-DCE	Vinyl Chloride	Xylenes	Methylene chloride		
GROUND WATER STANDARDS			5	5	200	7	70	2	10,000	5		
INSIDE CONTAINMENT CELL												
OL-002 (Field Dup D02290)	12/15/87	4-9'	41	3,100	ND	---	---	---	170	---		
	12/15/87		33	3,400	ND	---	---	---	140	---		
	09/16/97		8	3,700	1	---	3	<1	79	<2		
	03/20/02		<120	7,900	<600	<120	<120	<120	<600	200 (UJ)		
	03/20/02		<120	8,000	<600	<120	<120	<120	<600	240 (UJ)		
	04/22/03		3	91	<1	<1	4	<1	<1	<5		
	06/02/03		<5	330	<5	<5	17	<5	<5	<25		
OL-2M	04/14/05		<50	3,200	<50	<50	76	<100	---	---		
	07/09/02	21.5-31.5'	<0.100	5	<10	<0.100	<2	<0.100	<10	<2		
	06/02/03		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5		
GEO-4	04/14/05		<1	<1	<1	<1	<1	<2	---	<2.5		
	06/24/03	6-16'	<5	340	<5	<5	<5	<5	<5	<25		
TEST-1 (Field Dup D02947)	04/14/05		<50	2,500	<50	<50	<50	<100	---	<130		
	07/09/02	1.8-16.8'	14	12,000	<10	<2	15	2	150	<2		
	07/09/02		15	12,000	<10	<2	15	2	160	2		
	06/02/03		3	1,300	<2.5	<2.5	130	3	<2.5	<13		
	06/24/03		<5	400	<5	<5	53	<5	5	<25		
TEST-1 (DUP-5)	04/14/05		<50	3,500	<50	<50	390	<100	---	<130		
	04/14/05		<50	3,600	<50	<50	400	<100	---	<130		
OL-003	12/15/87	4-9'	45	180	ND	---	23	ND	ND	ND		
	09/16/97		5	94	<1	---	280	95	300	<2		
	03/18/02		0.508 (J)	13	<10	<0.100	57	16	4 (J)	<2		
	06/02/03		0.8	2	<0.5	<0.5	11	7	9	<2.5		
	04/13/05		<25	930	<25	<25	480	77	---	<63		
OL-3M	07/10/02	21.5-31.5'	<0.100	0.191	<10	<0.100	<2	<0.100	<10	<2		
	06/02/03		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5		
	04/13/05		<1	<1	<1	<1	<1	<2	---	<2.5		
GEO-3	06/24/03	6-16'	<0.5	4	<0.5	<0.5	49	35	65	<2.5		
MW-200S	04/14/05	6.5-9.5'	<200	14,000	<200	<200	<200	<400	---	<500		
MW-200D	04/14/05	14-17'	<25,000	870,000	<25,000	<25,000	<25,000	<25,000	136,000	<130,000		
MW-200D (Dup)	04/14/05		<25,000	770,000	<25,000	<25,000	<25,000	<25,000	25,000	<130,000		
MW-201S	04/14/05	6.5-9.5'	<5	330	<5	<5	<5	<10	---	<13		
MW-201D	04/14/05	14-17'	<1	11	<1	<1	<1	<2	---	<2.5		
MW-202S	04/14/05	6.5-9.5'	<100	6,200	<100	<100	<100	<200	---	<250		
MW-202D	04/14/05	14-17'	<2,000	89,000	<2,000	<2,000	<2,000	<4,000	---	<5,000		
MW-203S	04/14/05	3-6'	<10	500	<10	<10	<10	<20	---	<25		
MW-203D	04/14/05	14-17'	<500	42,000	<500	<500	<500	<1,000	---	<1,300		
MW-204S	04/14/05	7-10'	<50	2,400	<50	<50	280	<100	---	<130		
MW-204S (DUP-8)	04/14/05		<50	2,200	<50	<50	250	<100	---	<130		
MW-204D	04/14/05	14-17'	<1,000	60,000	<1,000	<1,000	<1,000	<2,000	---	<2,500		
MW-205S	04/13/05	4-7'	<1	12	<1	<1	4	<2	---	<2.5		
MW-205D	04/13/05	14-17'	<500	16,000	<500	<500	<500	<1,000	---	<1,300		
MW-206S	04/14/05	4-7'	<100	8,200	<100	<100	130	<200	---	<250		
MW-206D	04/14/05	14-17'	<25	<25	<25	<25	70	<50	---	<63		
MW-207S	04/13/05	6-9'	110	3,700	<50	<50	1,700	320	---	<130		
MW-207D	04/14/05	14-17'	<100	7,900	<100	<100	<100	<200	---	<250		
MW-207D (DUP-7)	04/14/05		<100	8,100	<100	<100	<100	<200	---	<250		
MW-208S	04/14/05	4-7'	<25	1,100	<25	<25	1,300	95	---	<63		
MW-208D	04/14/05	14-17'	<500	38,000	<500	<500	<500	<1,000	---	<1,300		
MW-209S	04/13/05	7-10'	<10	520	<10	<10	1,200	270	---	<25		
MW-209D	04/13/05	14-17'	<25	1,600	<25	<25	<25	<50	---	<63		
MW-210S	04/13/05	7-10'	<50	730	<50	<50	3,500	1,100	---	<130		
MW-210D	04/14/05	14-17'	<25	650	<25	<25	1,900	<50	---	<63		
MW-211S	04/14/05	6.5-9.5'	<2	39	<2	<2	140	27	---	<5		
MW-211D	04/14/05	14-17'	<5	83	<5	<5	150	<10	---	<13		
MW-212S	04/14/05	10-13'	450	360	<10	<10	12	<20	---	<25		

TABLE IA
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOC's
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	CONSTITUENT (VOC's)									
			PCE	TCE	1,1,1-TCA	1,1-DCE	cis,1,2-DCE	Vinyl Chloride	Xylenes	Methylene chloride		
GROUND WATER STANDARDS			5	5	200	7	70	2	10,000	5		
DEEP OVERTBURDEN WELLS												
GEO-1	09/21/99 03/18/02	90-100' 90-100'	<1.5 0.104	2.5 0.244	<1 <10	<1.5 <0.100	<1 <2	<2 <0.100	<1 <10	12 <2		
GEO-2	09/21/99 03/15/02	95-105' 95-105'	<1.5 <0.100	1.6 0.175	<1 <10	<1.5 <0.100	<1 <2	<2 <0.100	<1 <10	8.8 2		
OUTSIDE CONTAINMENT CELL												
UPGRADIENT												
OL-005	12/15/87 03/19/02 06/02/03 04/14/05	3.5-8.5' 	ND <0.100	ND <0.100	ND <0.5	... <10	... <0.100	... <2	ND <0.100	... 4 (UJ) <2.5		
MW-12	07/10/02 04/14/05	3.5-13.5' 3.5-13.5	<0.100 <1	<0.100 <1	<10 <1	<0.100 <1	<2 <1	<0.100 <2	<10 <2	<10 --- <2.5		
MW-214S	04/14/05	10-13'	<1	3	<1	<1	<1	<2	---	<2.5		
MW-214M	04/14/05	20-23'	<1	3	<1	<1	<1	<2	---	<2.5		
MW-214D	04/14/05	30-33'	<1	<1	<1	<1	<1	<2	---	<2.5		
SIDE GRADIENT EAST (Vicinity of Aberjona River)												
MW-010S	04/22/02 04/14/05	4-14' 4-14'	<0.100 <1	<0.100 <1	<10 <1	<0.100 <1	<2 <1	<0.100 <2	10 (UJ) 2 (UJ)	2 (UJ) --- <2.5		
MW-010M	04/25/02 04/14/05	40-50' 40-50'	<0.100 2	0.0779(J) 1	<10 <1	<0.100 <1	<2 <1	<0.100 <2	10 (UJ) ---	2 (UJ) --- <2.5		
MW-010D	04/25/02	88.5-98.5'	0.174	1.4	<10	<0.100	<2	<0.100	10 (UJ)	2 (UJ)		
MW-215S	04/13/05	10-13'	2,300	6,200	<100	<100	430	<200	---	<250		
MW-215M	04/13/05	20-23'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-215M (DUP-2)	04/13/05	<1	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-215D	04/13/05	30-33'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-216S	04/13/05	10-13'	<500	20,000	<500	<500	<500	<1,000	---	<1,300		
MW-216M	04/13/05	20-23'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-216D	04/13/05	30-33'	<1	<1	<1	<1	<1	<2	---	<2.5		
SIDE GRADIENT WEST (Adjacent to Sewer Line Easement)												
GEO-5	06/24/03	2-12'	280	3,300	<50	<50	<50	<50	<50	<250		
GEO-6	06/24/03 04/13/05	11-16' 11-16'	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <2	<0.5 ---	<2.5 --- <2.5		
GEO-7	06/24/03 04/13/05	6-16'	2 1	8	<0.5 <1	<0.5 <1	<0.5 <2	<0.5 <2	<0.5 ---	<2.5 ---		
MW-13	07/09/02 04/22/03 06/02/03 04/14/05	7-17'	410 650 430 470	780 280 250 160	<10 <10 <25 <10	<2 <10 <25 <10	1,500 780 1,300 340	<2 <10 <25 <20	6 (J) <10 <25 ---	<10 <50 <130 <25		
MW-212M	04/14/05	20-23'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-212D	04/14/05	30-33'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-212D (DUP-6)	04/14/05	<1	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-213S	04/13/05	10-13'	240	70	<5	<5	140	<10	---	<13		
MW-213S (DUP-1)	04/13/05	230	70	<5	<5	140	<10	---	---	<13		
MW-213M	04/13/05	20-23'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-213D	04/13/05	30-33'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-220M	04/14/05	20-23'	<1	<1	<1	<1	<1	<2	---	<2.5		
MW-220D	04/13/05	30-33'	<1	<1	<1	<1	<1	<2	---	<2.5		

TABLE 1A
SUMMARY OF GROUND WATER ANALYTICAL DATA - PRIMARY VOC's
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	CONSTITUENT (VOCs)							
			PCE	TCE	1,1,1-TCA	1,1-DCE	cis,1,2-DCE	Vinyl Chloride	Xylenes	Methylene chloride
GROUND WATER STANDARDS			5	5	200	7	70	2	10,000	5
OUTSIDE CONTAINMENT CELL (continued)										
DOWNGRADIENT										
MW-011S	04/26/02 04/14/05	4-14' 4-14'	<0.100 2	0.13 5	<10 <1	<0.100 <1	<2 13	0.264 <2	10 (UJ) ---	2 (UJ) <2.5
MW-011M	04/26/02 04/14/05	40-50' 40-50'	7 <1	120 19	<10 <1	<2 <1	17 2	<2 <2	10 (UJ) ---	2 (UJ) <2.5
MW-011D	04/26/02	81-91'	<0.100	<0.100	<10	<0.100	<2	<0.100	10 (UJ)	2 (UJ)
MW-14S	07/10/02 04/22/03 06/02/03 04/13/05	5-15' 1 2 3	25 6 15 6	180 1 15 1	<10 <1 <1 <1	<2 <1 <1 <1	670 61 62 98	190 19 16 16	<10 <10 <1 ---	<2 <5 <5 <2.5
MW-014M	07/10/02 04/13/05	20-30' <1	<0.100 <1	<0.100 <1	<10 <1	<0.100 <1	<2 <1	<0.100 <1	<10 <2	<10 ---
MW-014D	04/13/05	37-40'	<1	<1	<1	<1	<1	<2	---	<2.5
MW-014D (DUP4)	04/13/05	<1	<1	<1	<1	<1	<1	<2	---	<2.5
MW-217S	04/13/05	10-13'	<5	190	<5	<5	400	<10	---	<13
MW-217M	04/13/05	25-28'	<1	<1	<1	<1	<1	<2	---	<2.5
MW-217D	04/13/05	37-40'	<1	<1	<1	<1	<1	<2	---	<2.5
MW-218S	04/13/05	10-13'	<1	27	<1	<1	93	5	---	<2.5
MW-218M	04/13/05	25-28'	<1	<1	<1	<1	<1	<2	---	<2.5
MW-218D	04/13/05	37-40'	<1	<1	<1	<1	<1	<2	---	<2.5
MW-218D (DUP-3)	04/13/05	<1	<1	<1	<1	<1	<1	<2	---	<2.5
MW-219S	04/13/05	10-13'	<1	2	<1	<1	33	5	---	<2.5
MW-219M	04/13/05	25-28'	<1	6	<1	<1	63	12	---	<2.5
MW-219D	04/13/05	37-40'	<1	<1	<1	<1	<1	<2	---	<2.5

NOTES:

1. Values in micrograms per liter (ug/l).
2. Bold exceeds laboratory detection limits.
3. Shaded concentrations exceed applicable Ground Water Standard.
4. Ground Water Standards are ROD ICLs or MCP Method 1/GW-1 Risk Standards.
5. (J) = estimated concentration.
6. (UJ) = estimated non-detect.
7. DCE = Dichloroethene
8. DCA = Dichloroethane
9. TCE = Trichloroethene
10. TCA = Trichloroethane
11. PCE = Tetrachloroethene
12. ND = Not Detected: detection limit unknown.
13. --- = Not analyzed

TABLE 1B
SUMMARY OF GROUND WATER ANALYTICAL RESULTS- METALS
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	Chloride	CONSTITUENT (Metals)			
				Arsenic	Iron	Manganese	Sodium
INSIDE CONTAINMENT CELL							
OL-002	04/14/05	4-9'	69,000	<10	900	3,100	52,000
OL-2M	04/14/05	21.5-31.5'	88,000	<10	<100	300	34,000
GEO-4	04/14/05	6-16'	66,000	20	400	2,900	34,000
TEST-1	04/14/05	1.8-16.8'	62,000	10	<100	330	39,000
OL-003	04/13/05	4-9'	39,000	<10	4,000	2,900	29,000
OL-3M	04/13/05	21.5-31.5'	60,000	<10	<100	160	40,000
MW-200S	04/14/05	6.5-9.5'	69,000	20	800	4,400	42,000
MW-200D	04/14/05	14-17'	86,000	20	3,800	930	34,000
MW-201S	04/14/05	6.5-9.5'	70,000	40	7,600	3,500	50,000
MW-201D	04/14/05	14-17'	85,000	<10	<100	210	26,000
MW-202S	04/14/05	6.5-9.5'	73,000	<10	700	3,900	56,000
MW-202D	04/14/05	14-17'	56,000	10	100	770	21,000
MW-203S	04/14/05	3-6'	64,000	<10	1,100	8,200	55,000
MW-203D	04/14/05	14-17'	38,000	<10	200	1,800	27,000
MW-204S	04/14/05	7-10'	55,000	10	1,700	1,600	28,000
MW-204D	04/14/05	14-17'	49,000	10	500	1,600	22,000
MW-205S	04/13/05	4-7'	70,000	<10	2,100	3,700	52,000
MW-205D	04/13/05	14-17'	32,000	<10	1,100	1,900	14,000
MW-206S	04/14/05	4-7'	80,000	10	1,300	4,900	62,000
MW-206D	04/14/05	14-17'	28,000	<10	300	1,500	12,000
MW-207S	04/13/05	6-9'	62,000	50	1,500	960	89,000
MW-207D	04/14/05	14-17'	25,000	<10	400	1,900	14,000
MW-208S	04/14/05	4-7'	68,000	20	5,200	4,500	49,000
MW-208D	04/14/05	14-17'	34,000	<10	300	2,800	16,000
MW-209S	04/13/05	7-10'	59,000	<10	5,900	4,100	31,000
MW-209D	04/13/05	14-17'	22,000	10	<100	1,900	10,000
MW-210S	04/13/05	7-10'	66,000	<10	8,300	5,400	35,000
MW-210D	04/13/05	7-10'	25,000	<10	900	2,800	14,000
MW-211S	04/14/05	6.5-9.5'	47,000	20	3,400	5,800	37,000
MW-211D	04/14/05	14-17'	35,000	<10	16,000	2,200	22,000
GROUND WATER STANDARDS			NA	50	NA	NA	NA

TABLE 1B
SUMMARY OF GROUND WATER ANALYTICAL RESULTS- METALS
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

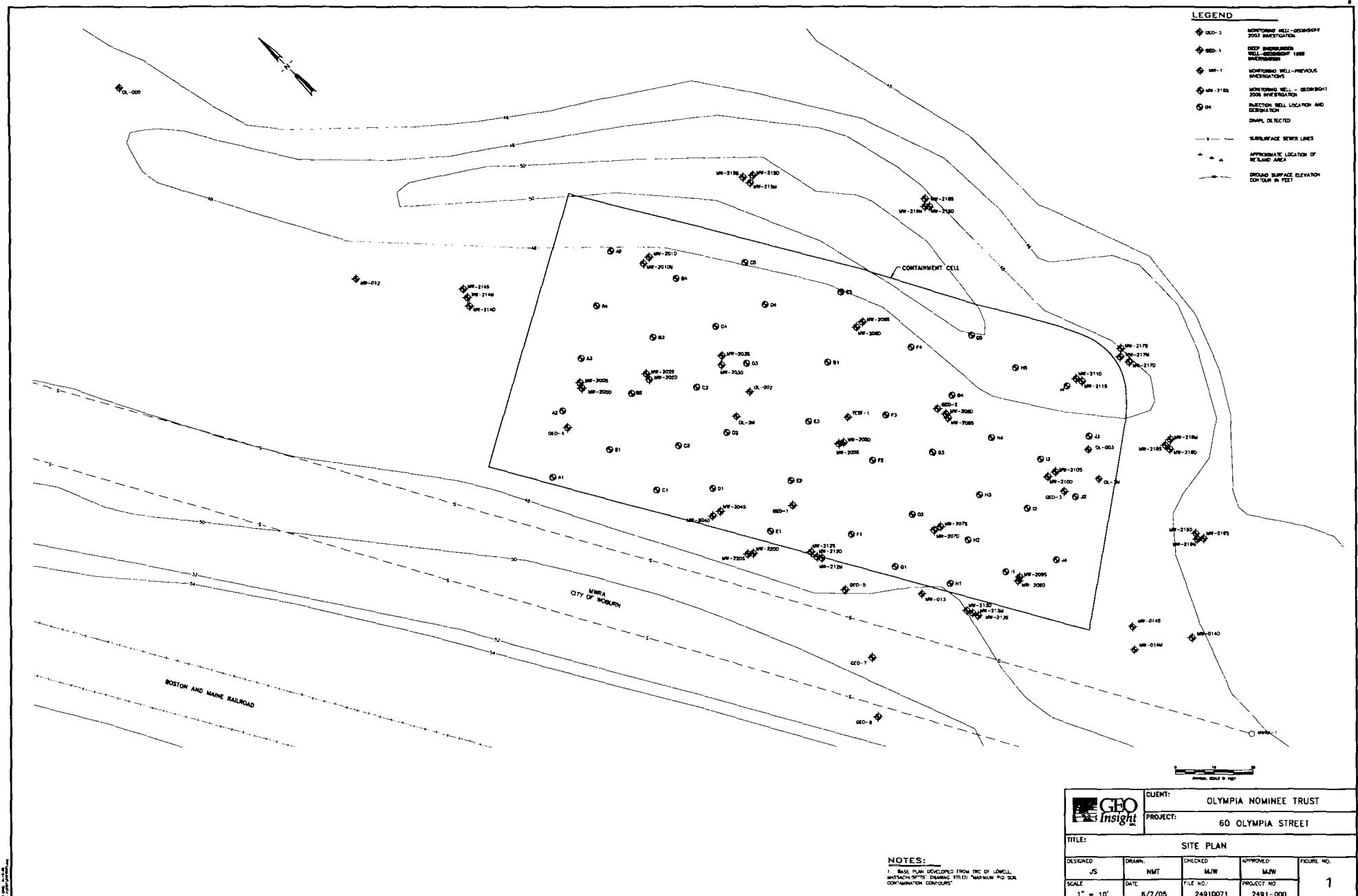
LOCATION ID	Sampling Date	Screen Interval	Chloride	CONSTITUENT (Metals)						
				Arsenic	Iron	Manganese	Sodium			
OUTSIDE CONTAINMENT CELL										
UPGRADIENT										
OL-005	04/14/05	3.5-8.5'	120,000	50	20,000	3,900	63,000			
MW-12	04/14/05	3.5-13.5'	120,000	50	13,000	2,000	72,000			
MW-214S	04/14/05	10-13'	200,000	30	100	1,100	83,000			
MW-214M	04/14/05	20-23'	70,000	20	<100	220	49,000			
MW-214D	04/14/05	30-33'	58,000	30	<100	330	65,000			
SIDE GRADIENT EAST										
MW-010S	04/14/05	4-14'	130,000	20	1,200	660	67,000			
MW-010M	04/14/05	40-50'	78,000	<10	<100	620	37,000			
MW-215S	04/13/05	10-13'	160,000	<10	<100	1,400	62,000			
MW-215M	04/13/05	20-23'	38,000	<10	100	2,800	14,000			
MW-215D	04/13/05	30-33'	57,000	<10	<100	1,100	54,000			
MW-216S	04/13/05	10-13'	70,000	<10	300	1,000	36,000			
MW-216M	04/13/05	20-23'	45,000	<10	12,000	1,200	26,000			
MW-216D	04/13/05	30-33'	53,000	<10	<100	1,100	57,000			
SIDE GRADIENT WEST										
GEO-6 (GEO-SB-90)	04/13/05	11-16'	16,000	<10	<100	<50	9,000			
GEO-7	04/13/05	6-16'	8,000	<10	<100	<50	10,000			
MW-13	04/14/05	7-17'	57,000	20	2,000	4,000	34,000			
MW-212S	04/14/05	10-13'	130,000	<10	<100	1,500	56,000			
MW-212M	04/14/05	20-23'	55,000	<10	2,300	340	21,000			
MW-212D	04/14/05	30-33'	86,000	<10	<100	920	35,000			
MW-213S	04/13/05	10-13'	53,000	<10	1,500	2,700	30,000			
MW-213M	04/13/05	20-23'	41,000	<10	4,100	1,900	19,000			
MW-213D	04/13/05	30-33'	87,000	<10	200	560	32,000			
MW-220M	04/14/05	20-23'	150,000	<10	2,800	390	30,000			
MW-220D	04/13/05	30-33'	92,000	<10	300	820	32,000			
GROUND WATER STANDARDS				NA	50	NA	NA			

TABLE 1B
SUMMARY OF GROUND WATER ANALYTICAL RESULTS- METALS
60 OLYMPIA AVENUE
WOBURN, MASSACHUSETTS

LOCATION ID	Sampling Date	Screen Interval	Chloride	CONSTITUENT (Metals)			
				Arsenic	Iron	Manganese	Sodium
DOWNGRADIENT							
MW-011S	04/14/05	4-14'	150,000	<10	2,500	4,000	30,000
MW-011M	04/14/05	40-50'	160,000	<10	<100	190	77,000
MW-14S	04/13/05	5-15'	25,000	<10	1,500	1,100	20,000
MW-014M	04/13/05	20-30'	63,000	<10	<100	70	30,000
MW-014D	04/13/05	37-40'	58,000	<10	300	1,200	33,000
MW-217S	04/13/05	10-13'	24,000	20	1,700	2,900	34,000
MW-217M	04/13/05	25-28'	54,000	<10	<100	480	34,000
MW-217D	04/13/05	37-40'	54,000	<10	900	1,100	31,000
MW-218S	04/13/05	10-13'	34,000	<10	9,500	2,000	34,000
MW-218M	04/13/05	25-28'	56,000	20	100	5,200	34,000
MW-218D	04/13/05	37-40'	73,000	20	2,200	1,700	30,000
MW-219S	04/13/05	10-13'	59,000	<10	300	3,900	33,000
MW-219M	04/13/05	25-28'	47,000	<10	5,000	690	39,000
MW-219D	04/13/05	37-40'	56,000	<10	1,100	610	40,000
GROUND WATER STANDARDS			NA	50	NA	NA	NA

NOTES:

1. Values in micrograms per liter (ug/l).
2. Bold exceeds laboratory detection limits.
3. Shaded concentrations exceed applicable Ground Water Standard.
4. Ground Water Standards are MCP Method 1/GW-1 Risk Standards.



NOTES: